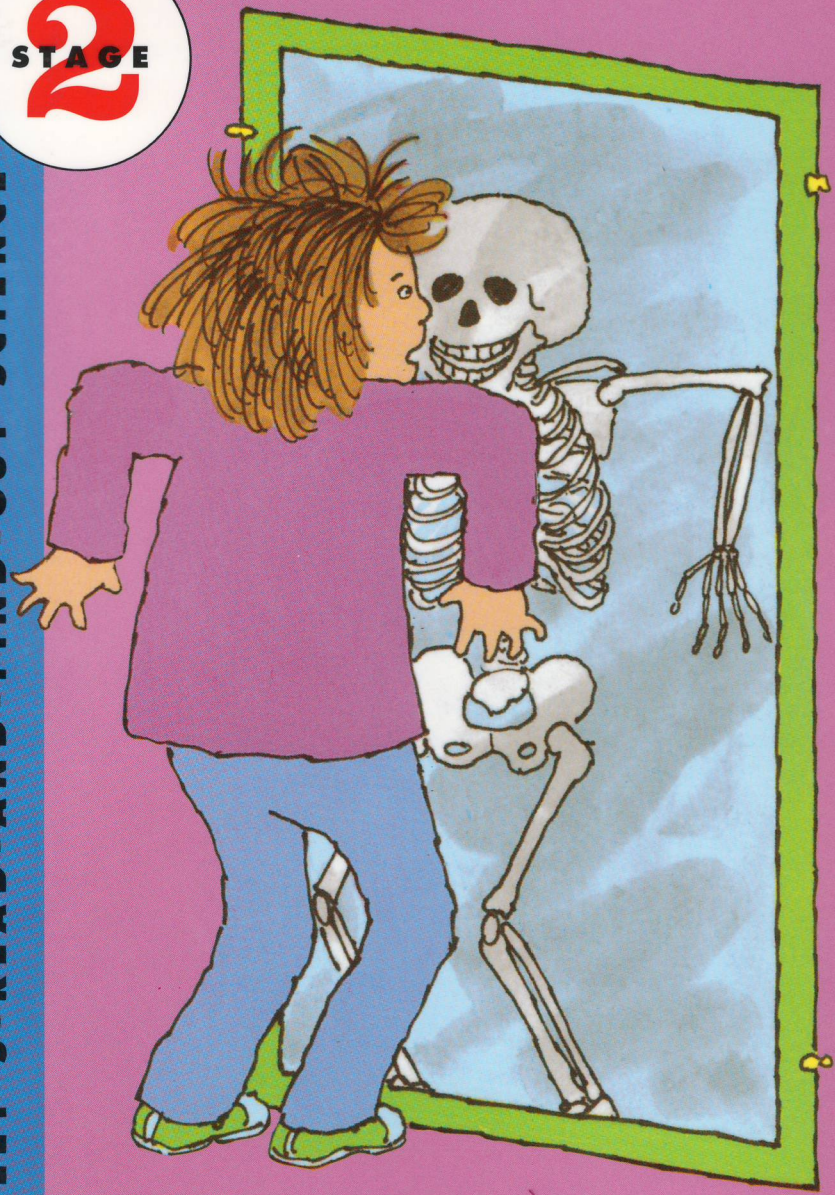
LET'S-READ-AND-FIND-OUT SCIENCE®

STAGE 2



The Skeleton Inside You

by
Philip Balestrino

illustrated by
True Kelley

Be sure to look for all of these books in the Let's-Read-and-Find-Out Science series:

STAGE 1

The Human Body:

How Many Teeth?
I'm Growing!
Look at Your Eyes
My Feet
My Five Senses
My Hands

Plants and Animals:

Baby Whales Drink Milk
Fireflies in the Night
How a Seed Grows

The World Around Us:

Air Is All Around You
The Big Dipper
Shooting Stars
Snow Is Falling
What Makes a Shadow?

STAGE 2

The Human Body:

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Ears Are For Hearing
Germs Make Me Sick!
How You Talk
The Skeleton Inside You
What Happens to a Hamburger
Your Skin and Mine

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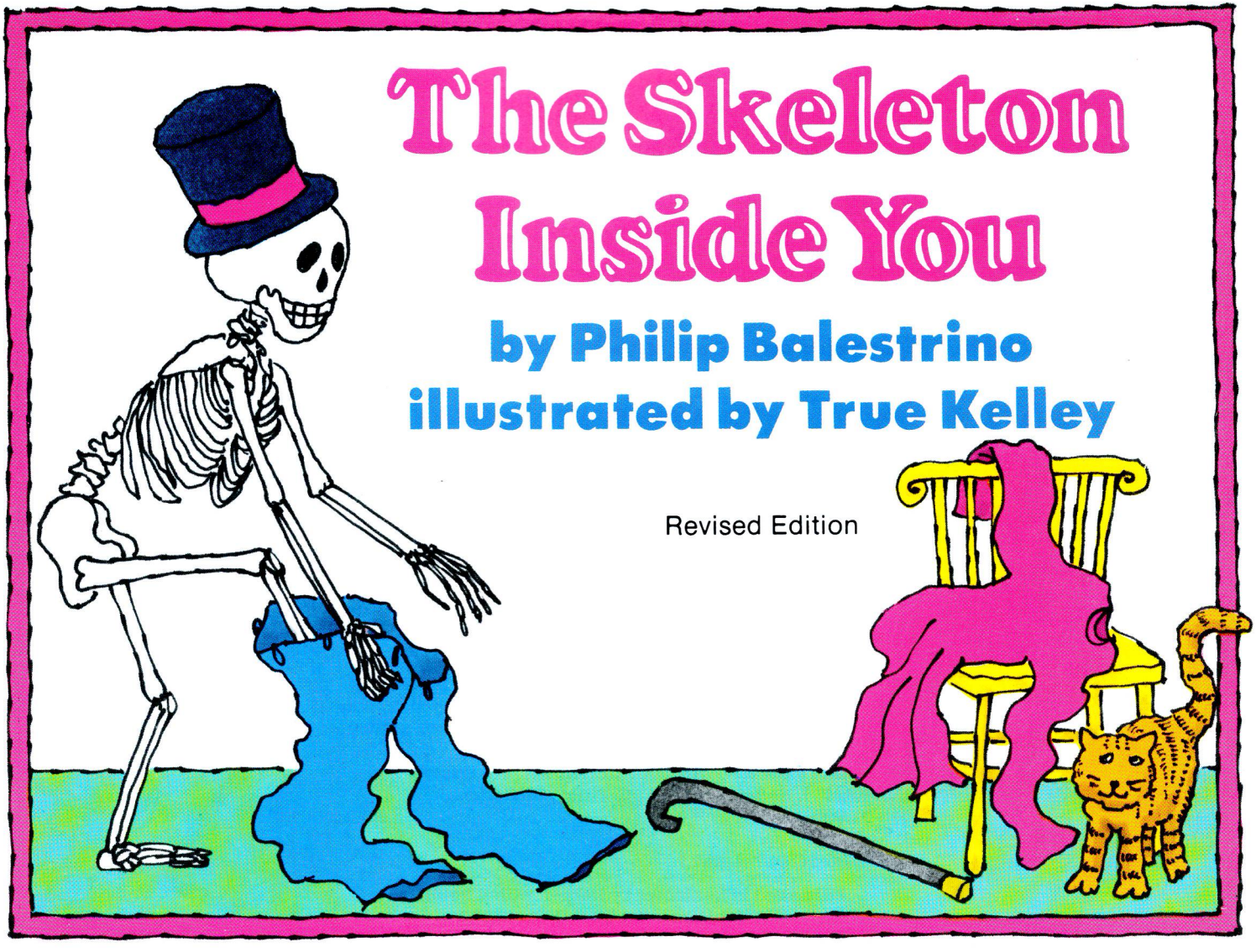
Where Does the Garbage Go?

This Is a Let's-Read-and-Find-Out Science Book®



The Skeleton Inside You

by Philip Balestrino
illustrated by True Kelley

Revised Edition

HarperCollins*Publishers*

For my mother, Lillian Balestrino, and for Fred Haynes —P.B.

For the children of Warner, New Hampshire —T.K.

The *Let's-Read-and-Find-Out Science* book series was originated by Dr. Franklyn M. Branley, Astronomer Emeritus and former Chairman of the American Museum–Hayden Planetarium, and was formerly co-edited by him and Dr. Roma Gans, Professor Emeritus of Childhood Education, Teachers College, Columbia University. Text and illustrations for each of the books in the series are checked for accuracy by an expert in the relevant field. For more information about Let's-Read-and-Find-Out Science books, write to HarperCollins Children's Books, 10 East 53rd Street, New York, NY 10022. Manufactured in China.

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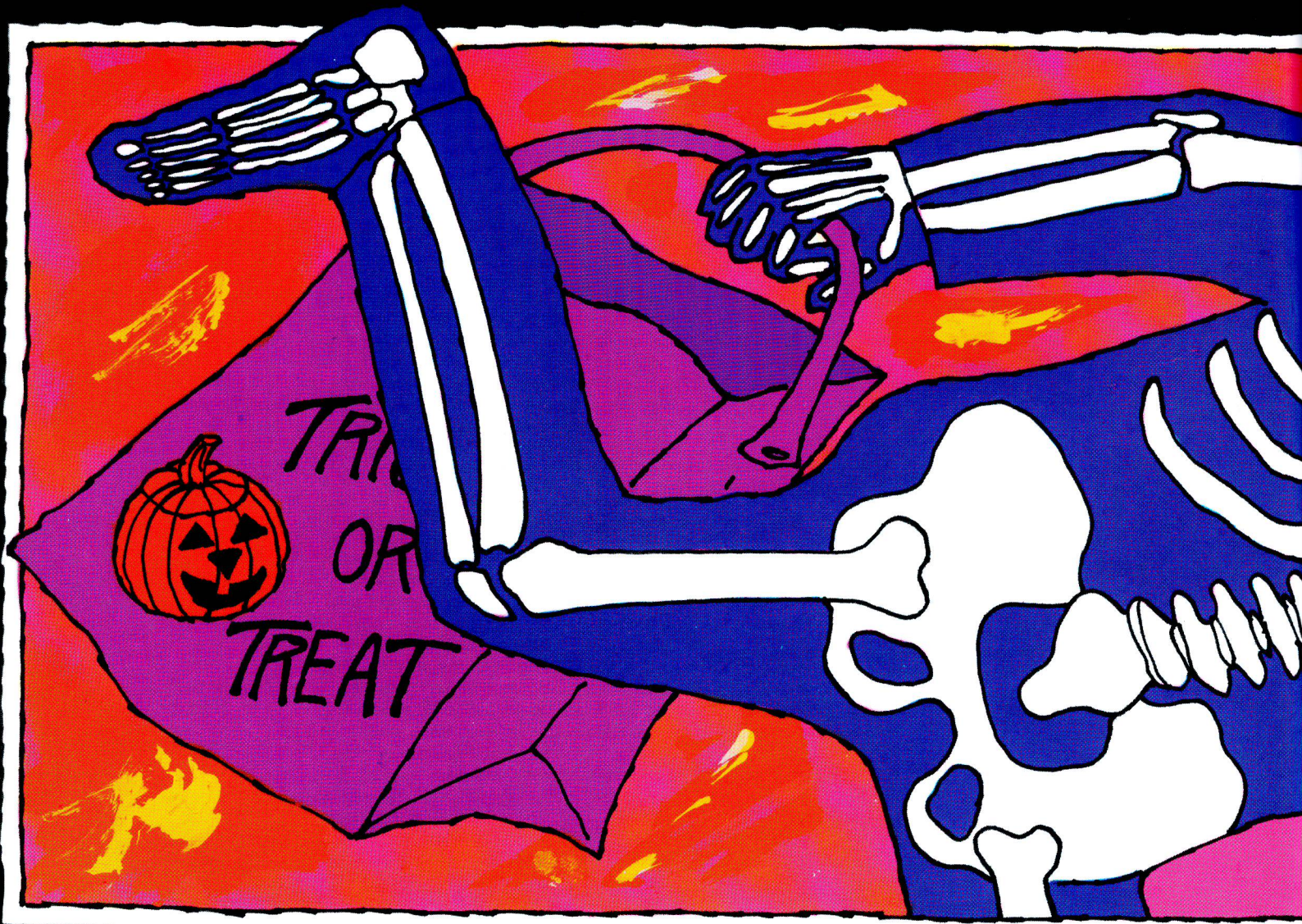
The Skeleton Inside You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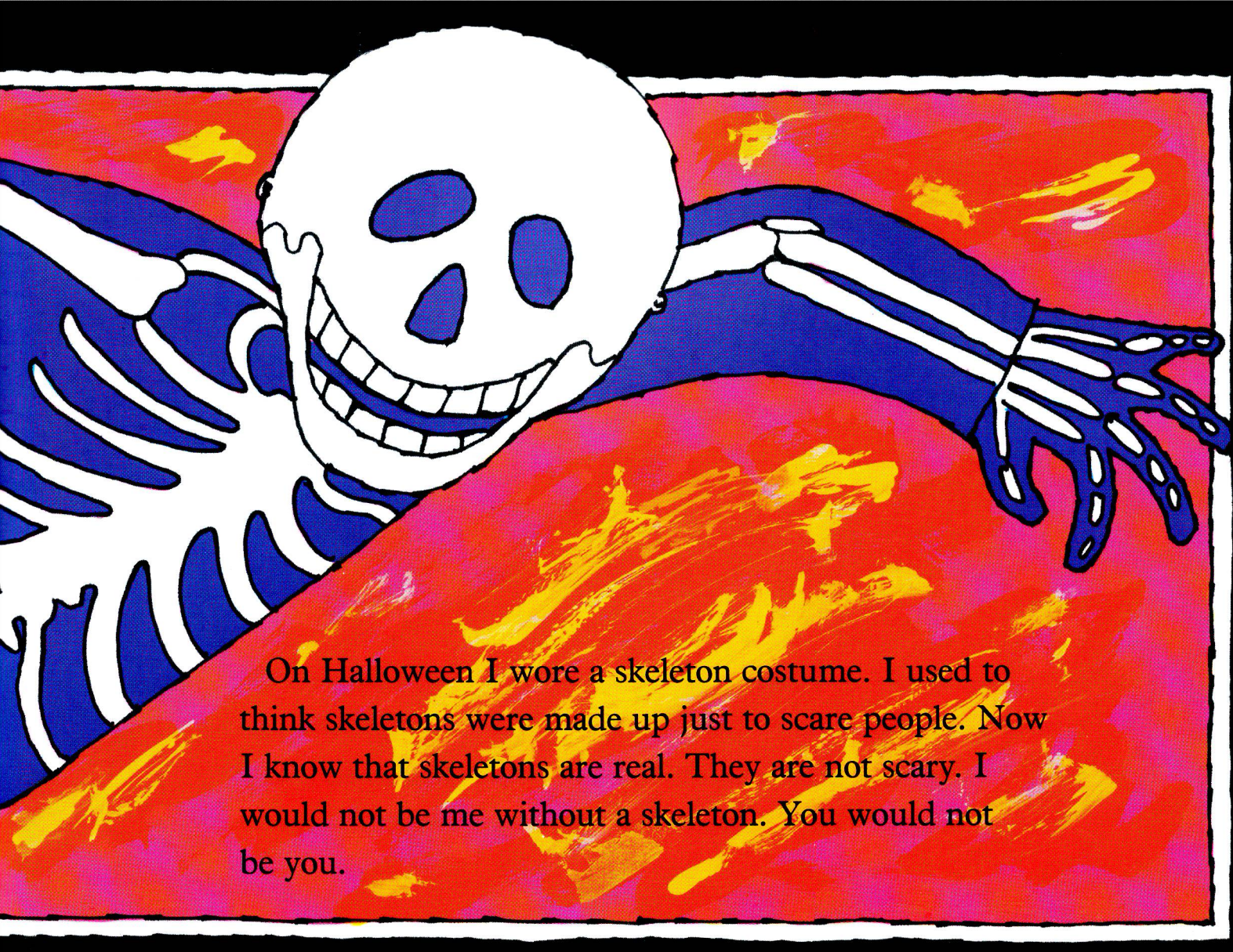
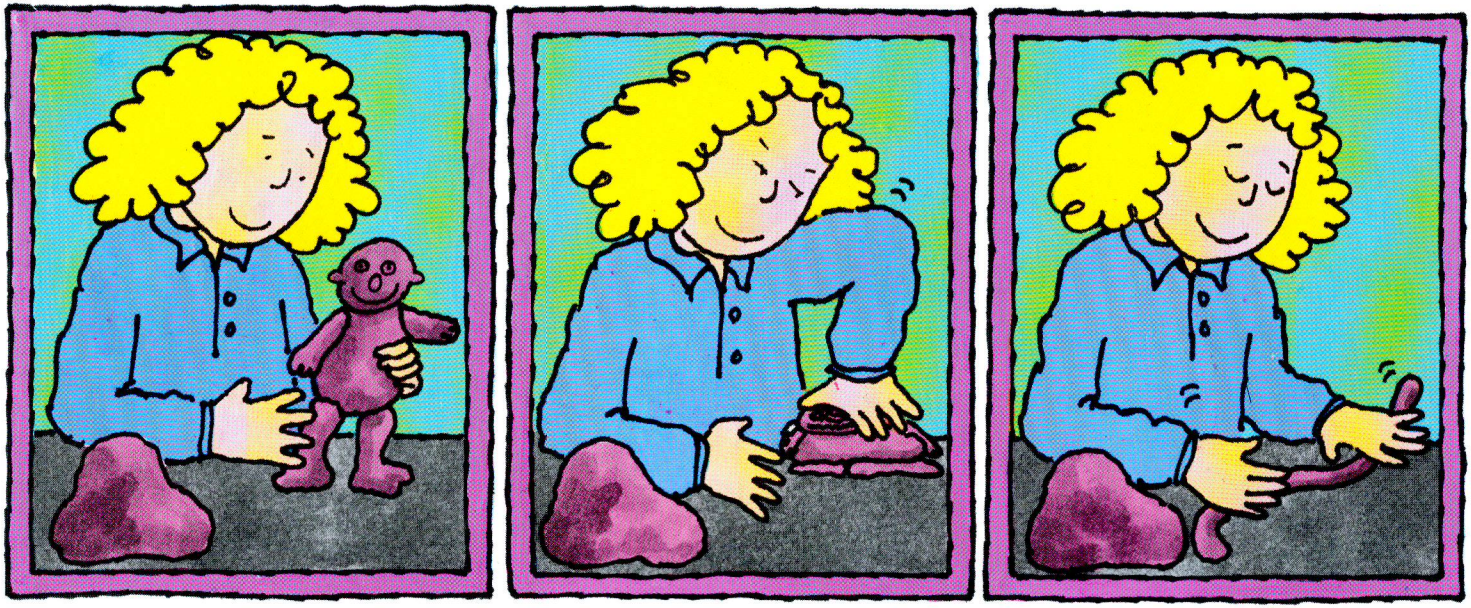
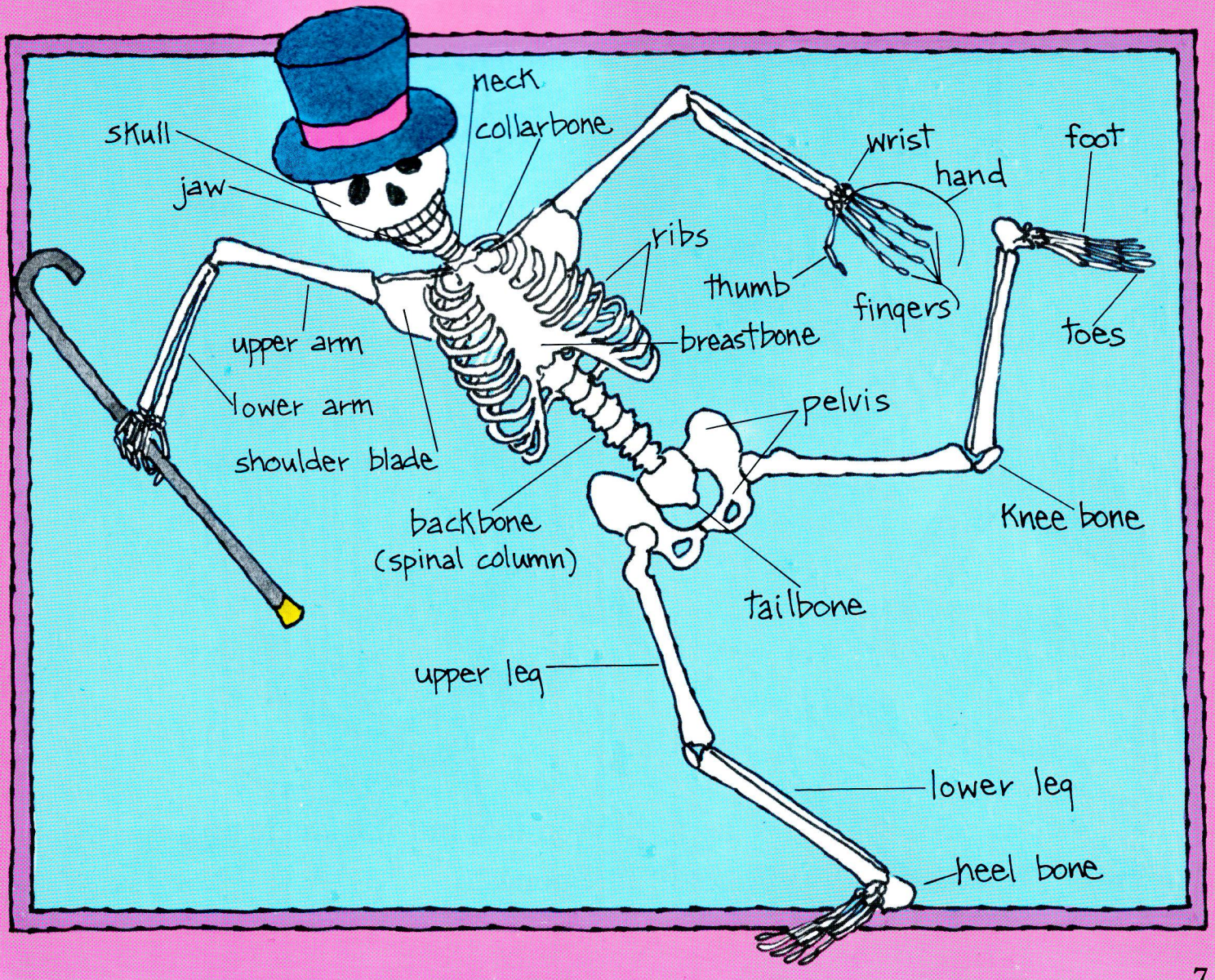
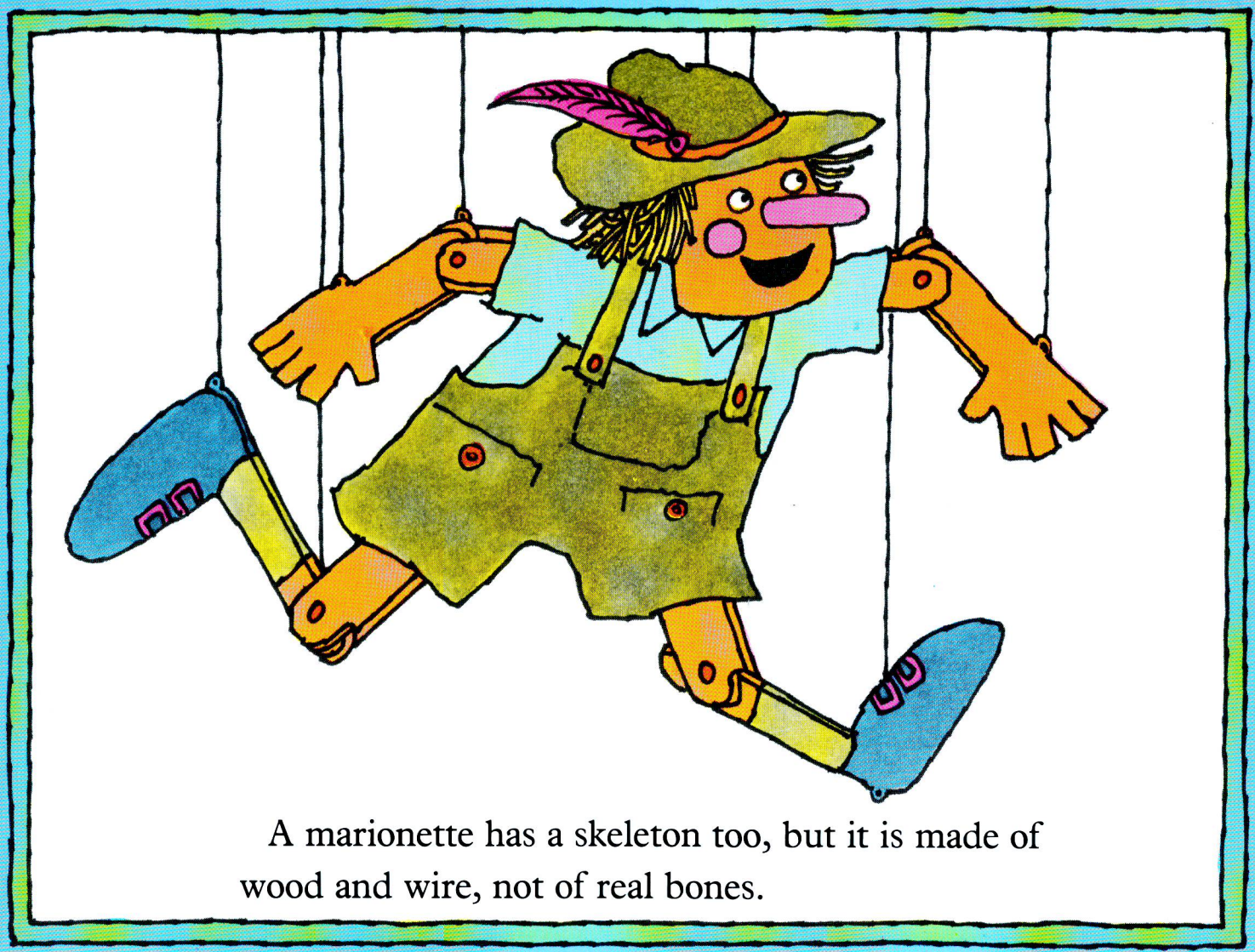

On Halloween I wore a skeleton costume. I used to think skeletons were made up just to scare people. Now I know that skeletons are real. They are not scary. I would not be me without a skeleton. You would not be you.

Skeletons are made up of many bones. Bones give you shape. A ball of clay has no bones inside it. You can make a ball of soft clay into any shape you want. You can make it into a little figure. Then you can squash the figure and roll it into a mustache or a snake. But nothing can change your shape, because you have a skeleton inside you.

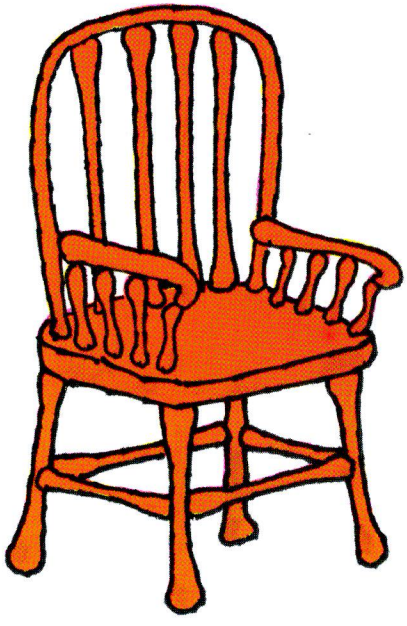


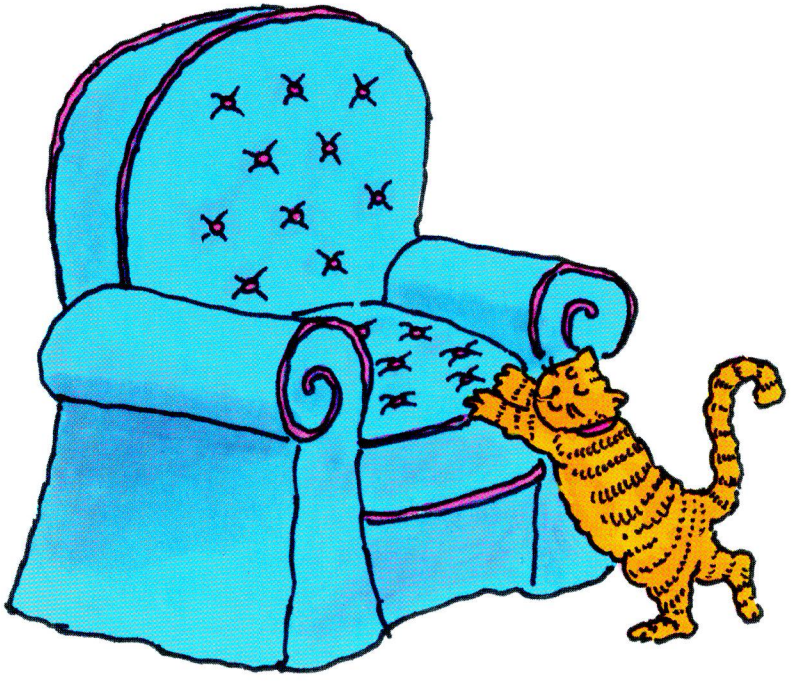

skull
jaw
neck
collarbone
wrist
hand
foot
ribs
thumb
fingers
toes
upper arm
breastbone
lower arm
pelvis
shoulder blade
backbone
(spinal column)
Knee bone
tailbone
upper leg
lower leg
heel bone

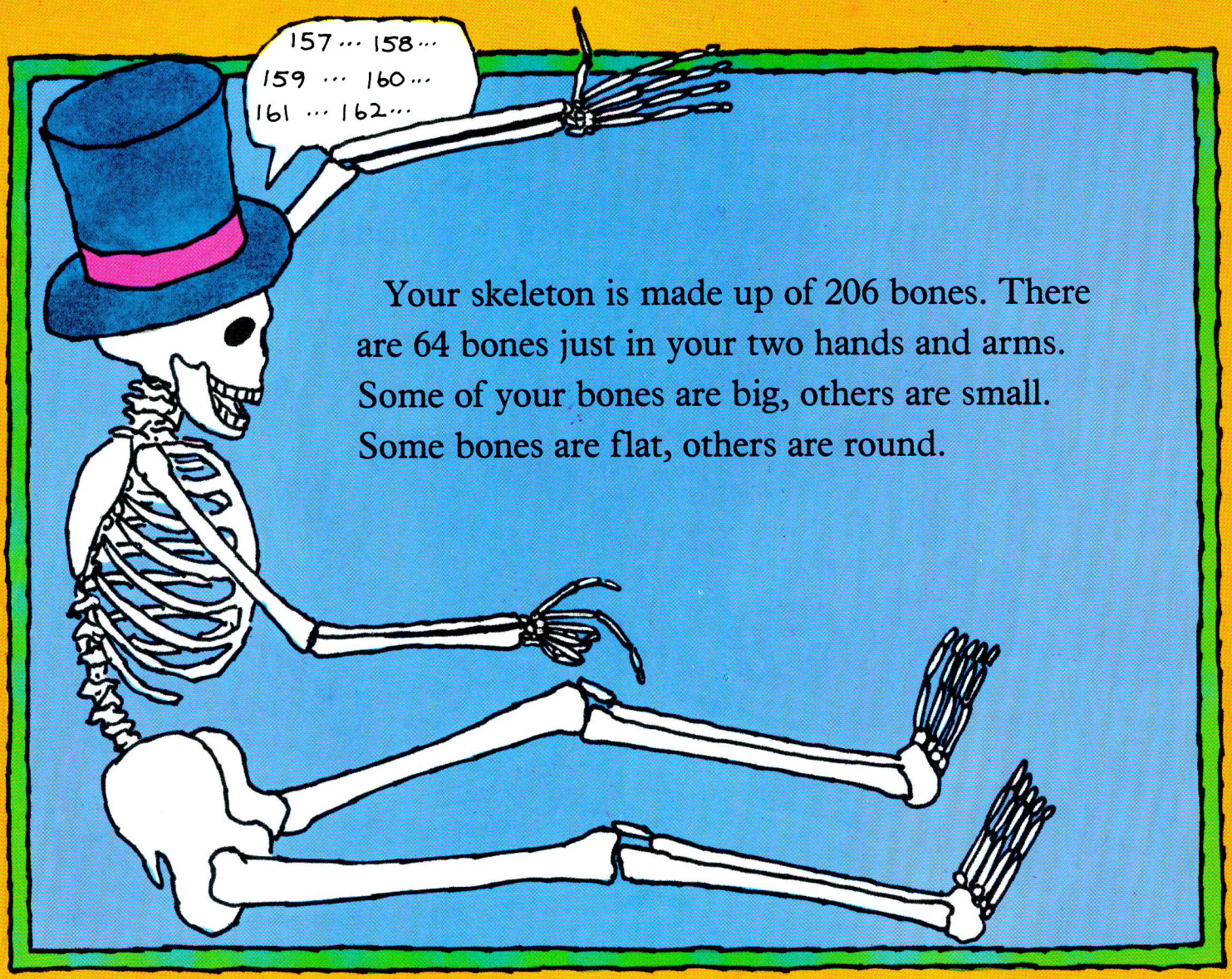


A marionette has a skeleton too, but it is made of wood and wire, not of real bones.

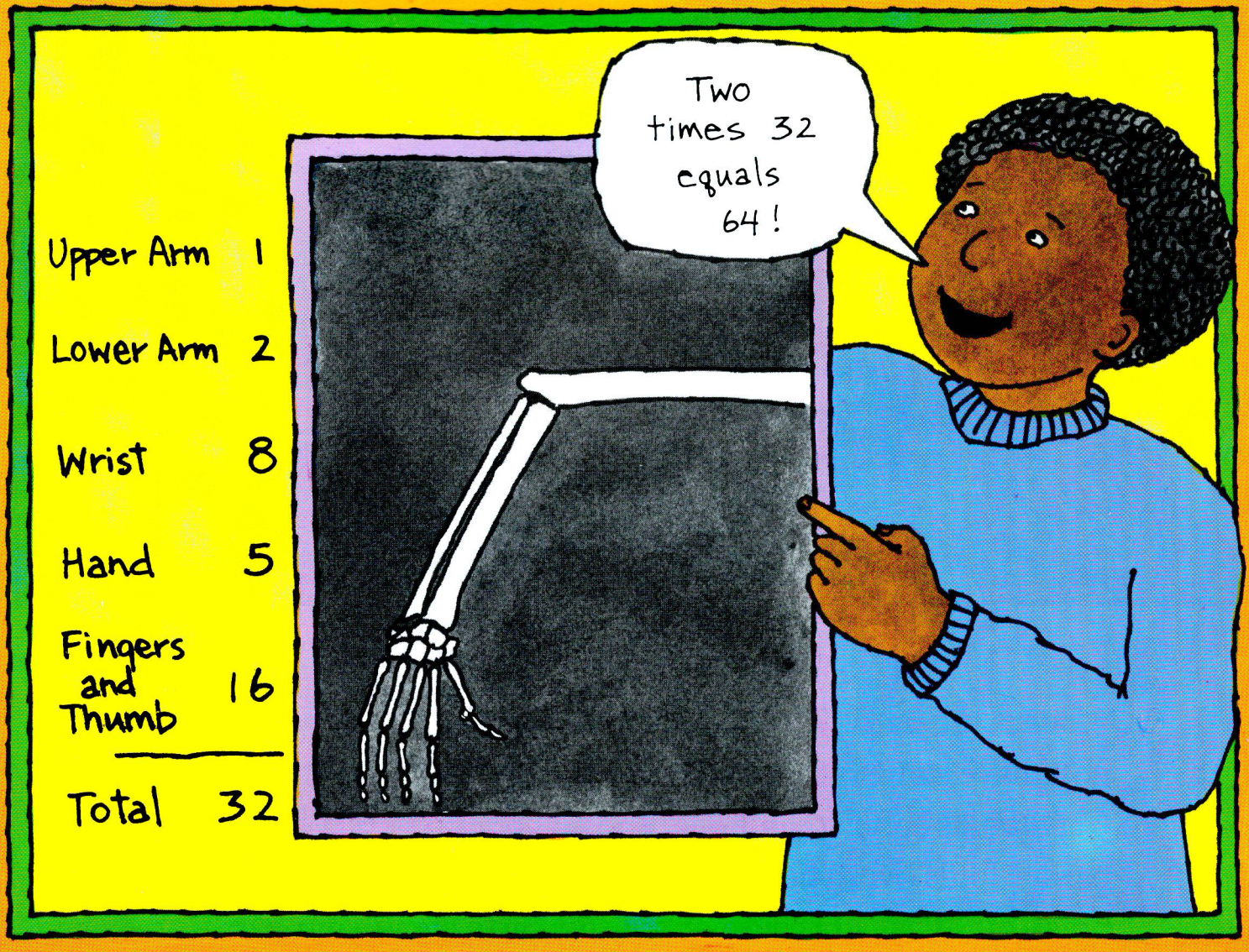
A plain wooden chair is like a skeleton without any covering. When the chair is covered with stuffing and cloth, it is like your skeleton covered with muscles and skin. But your skeleton is different. It is made up of bones.

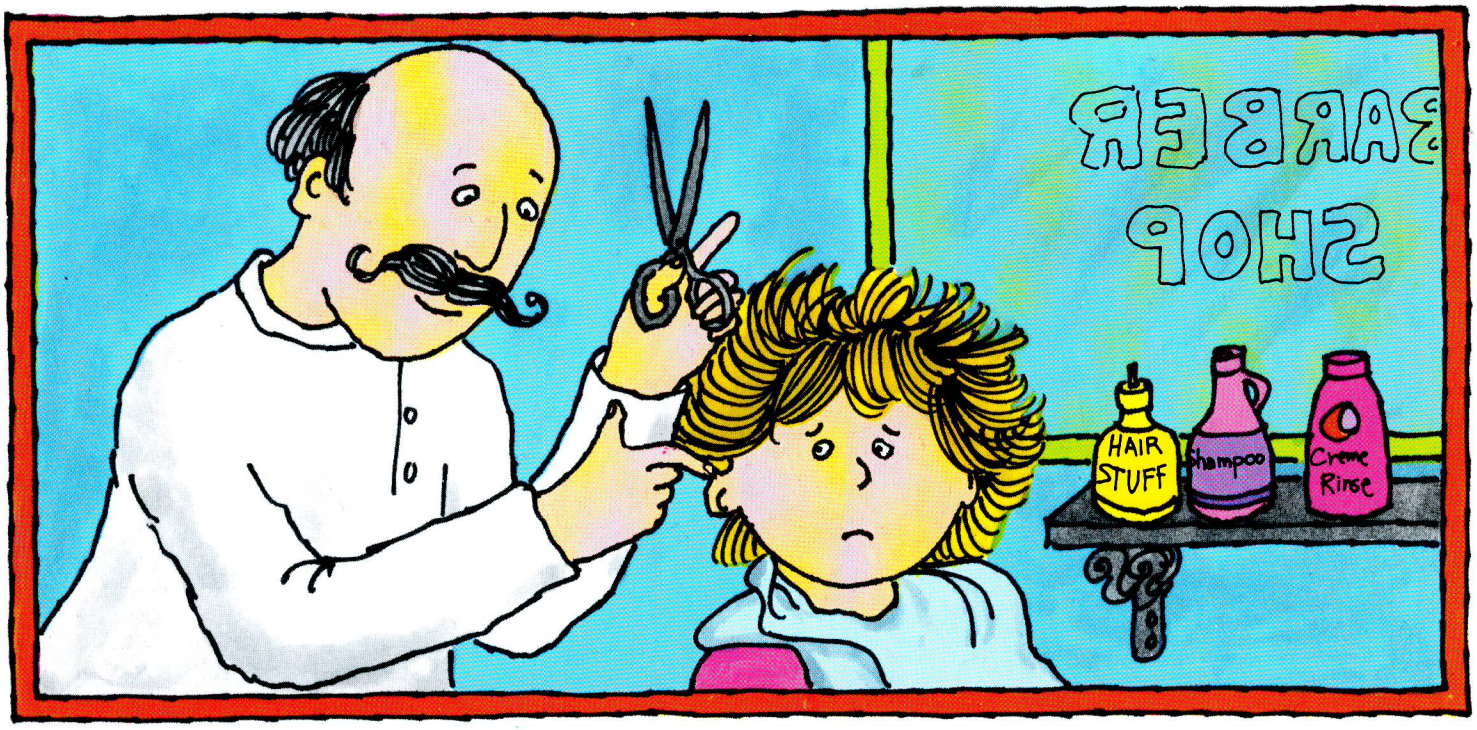




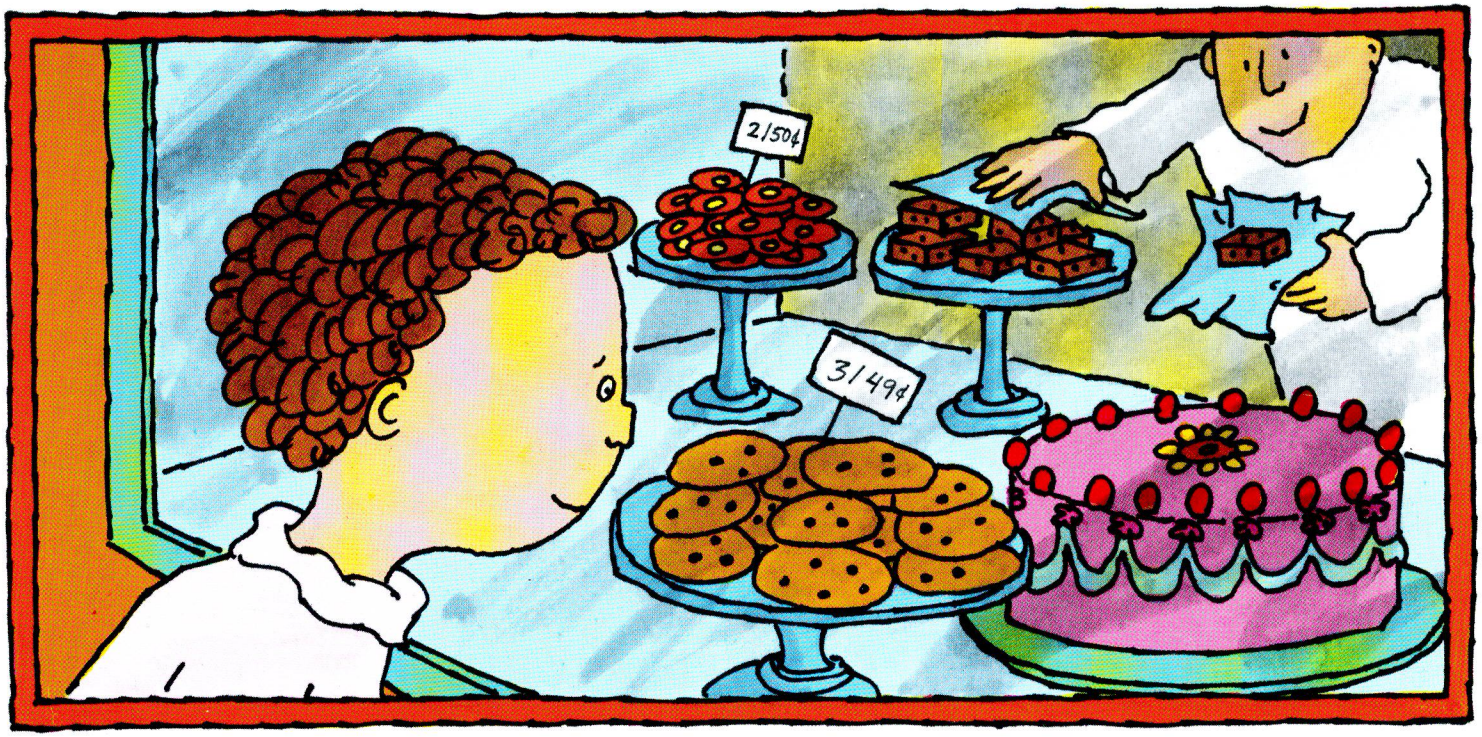


Your skeleton is made up of 206 bones. There are 64 bones just in your two hands and arms. Some of your bones are big, others are small. Some bones are flat, others are round.

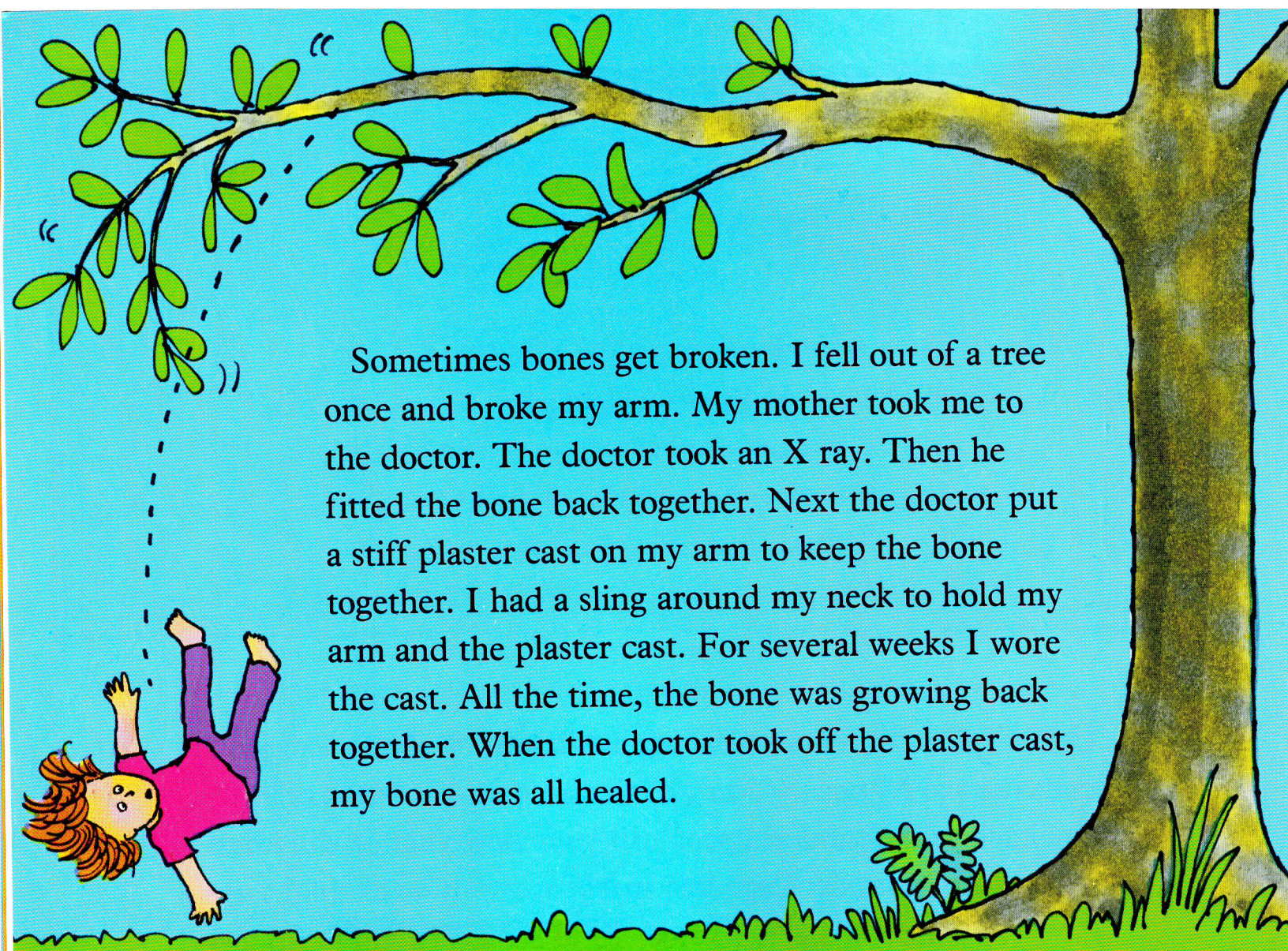

Two times 32 equals 64!
Upper Arm 1
Lower Arm 2
Wrist 8
Hand 5
Fingers and Thumb 16
Total 32



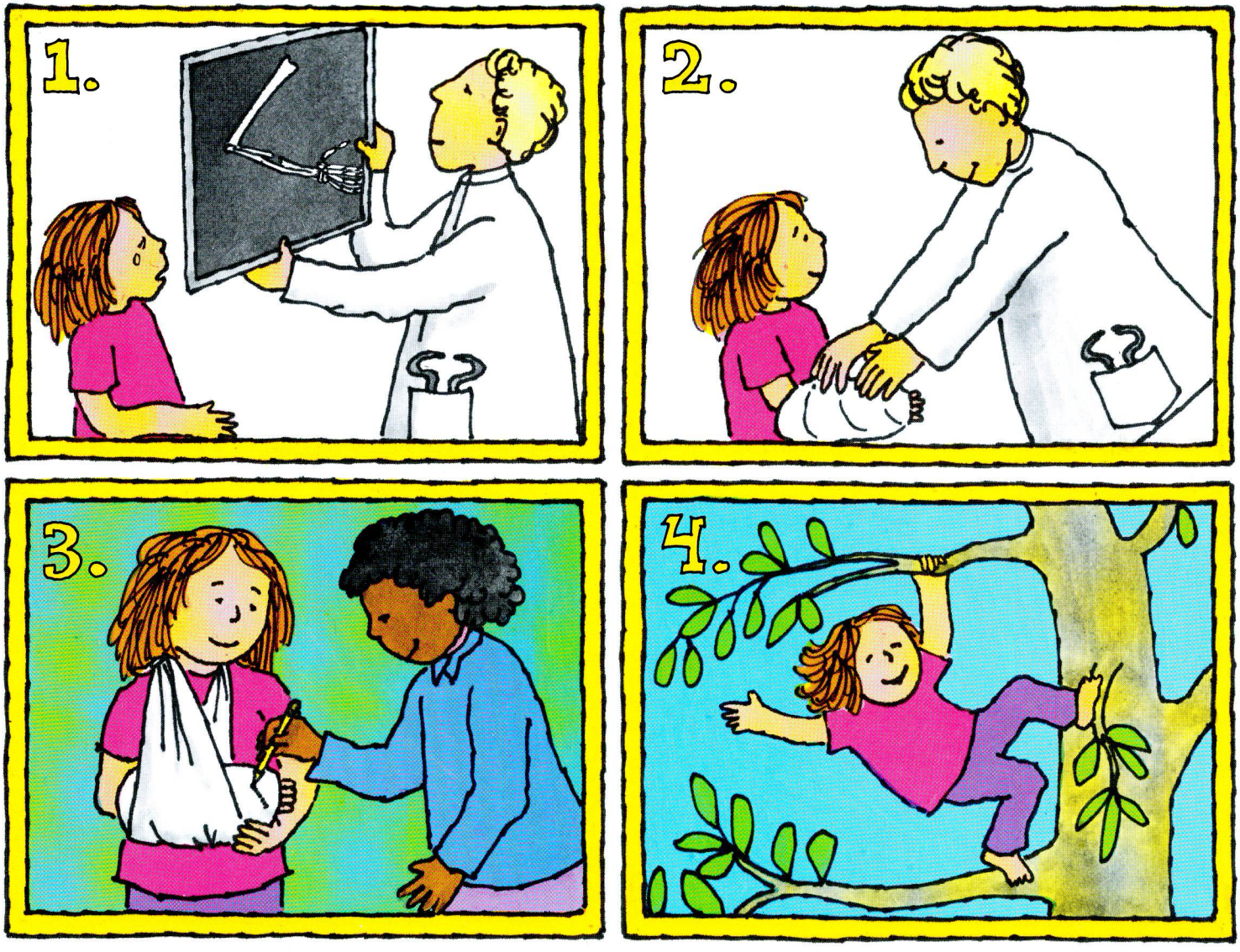
Bones are hard. They give your body shape. Your ears and nose have something called cartilage in them to give them shape. Cartilage is softer than bone, and so it can bend. When the barber folds over your ear to cut your hair, your ear does not break off. That's because of the soft cartilage in your ear.



Once I pushed my nose flat against a bakery window to look at some cookies. My nose didn't hurt, and it didn't break off. It came back to the same shape. Push your nose flat. It will bend too, because it has cartilage inside it.



Sometimes bones get broken. I fell out of a tree once and broke my arm. My mother took me to the doctor. The doctor took an X ray. Then he fitted the bone back together. Next the doctor put a stiff plaster cast on my arm to keep the bone together. I had a sling around my neck to hold my arm and the plaster cast. For several weeks I wore the cast. All the time, the bone was growing back together. When the doctor took off the plaster cast, my bone was all healed.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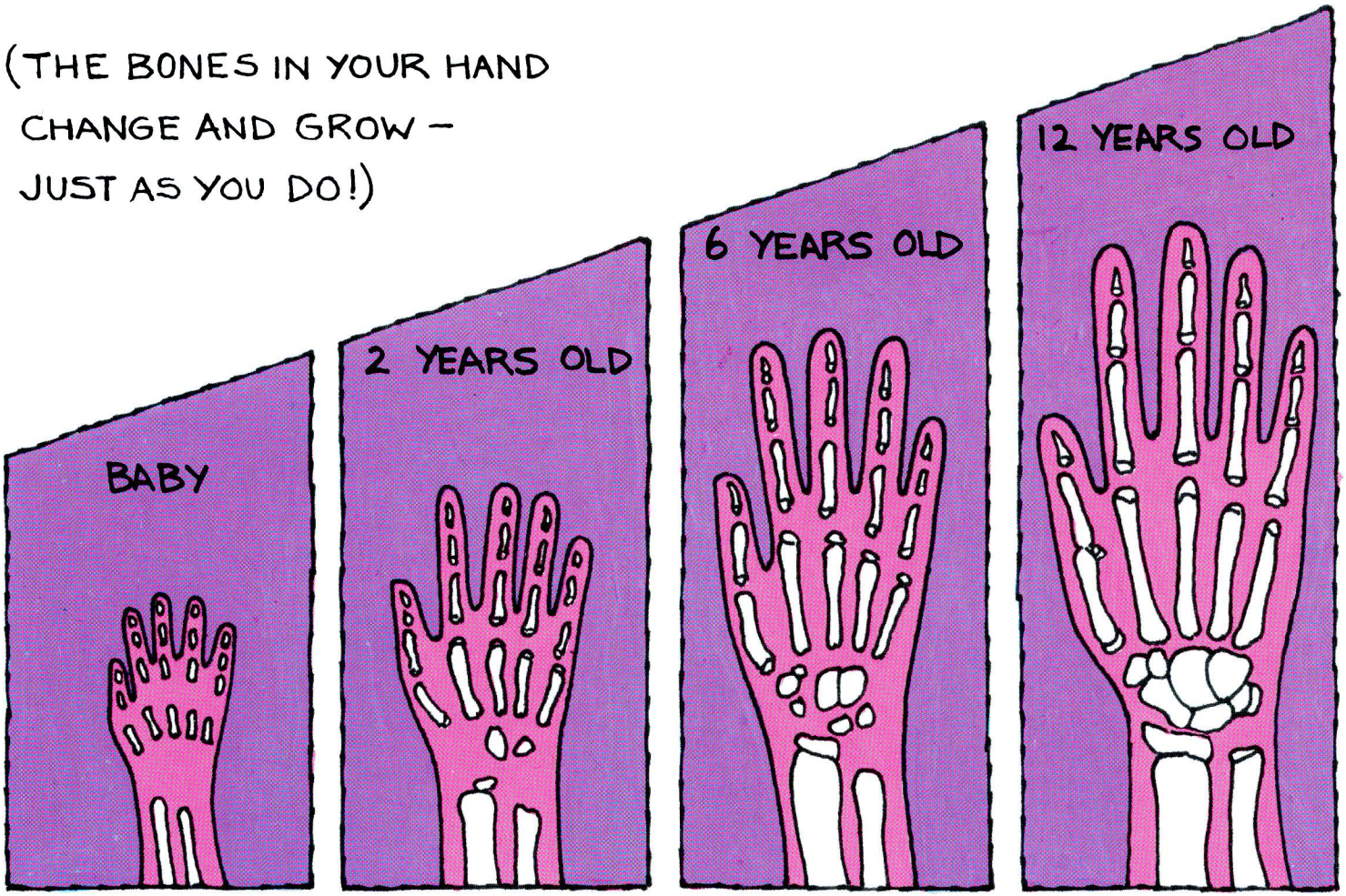
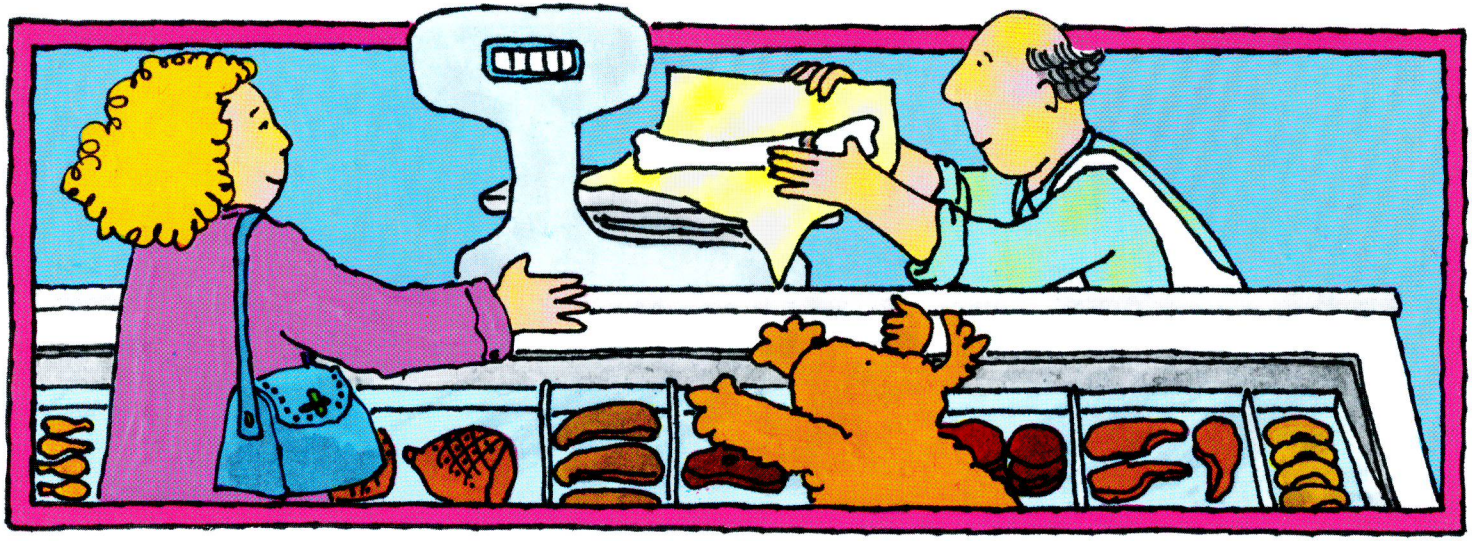
Bones live and grow, just like every other part of the body. Bones start to grow before you are even born. As your bones grow longer, you grow taller, until you're all grown.

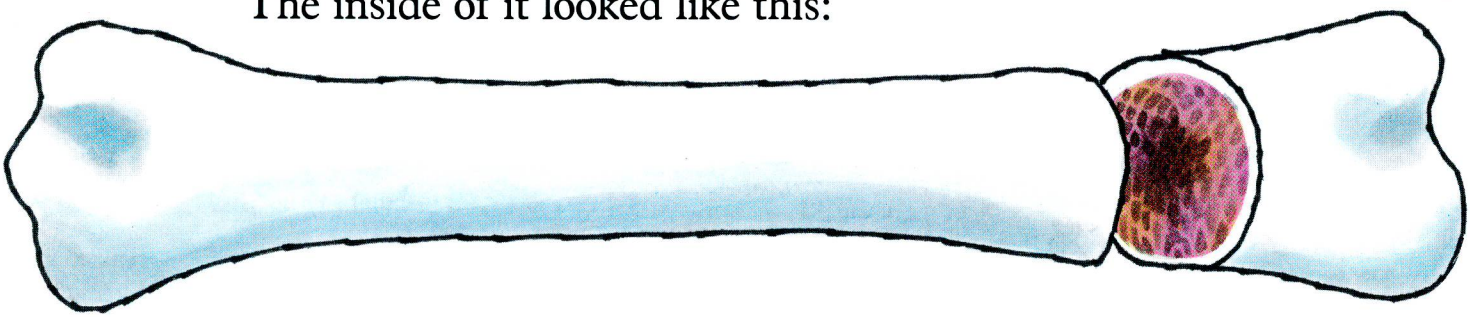
(THE BONES IN YOUR HAND
CHANGE AND GROW –
JUST AS YOU DO!)



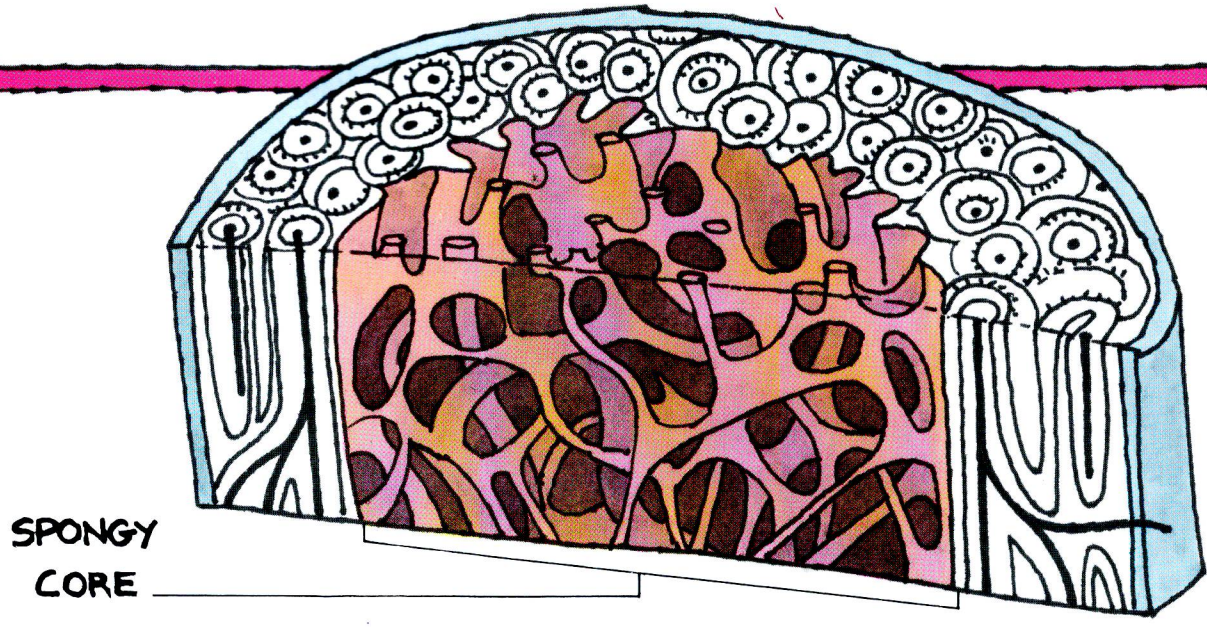
Foods like milk and cheese and some leafy vegetables have calcium in them. Calcium is a mineral that helps bones grow. Calcium also makes bones hard. Without it, all your bones would be as soft as cartilage. They would be soft enough to tie into knots.



The butcher cut up a big soup bone for my mother. The inside of it looked like this:



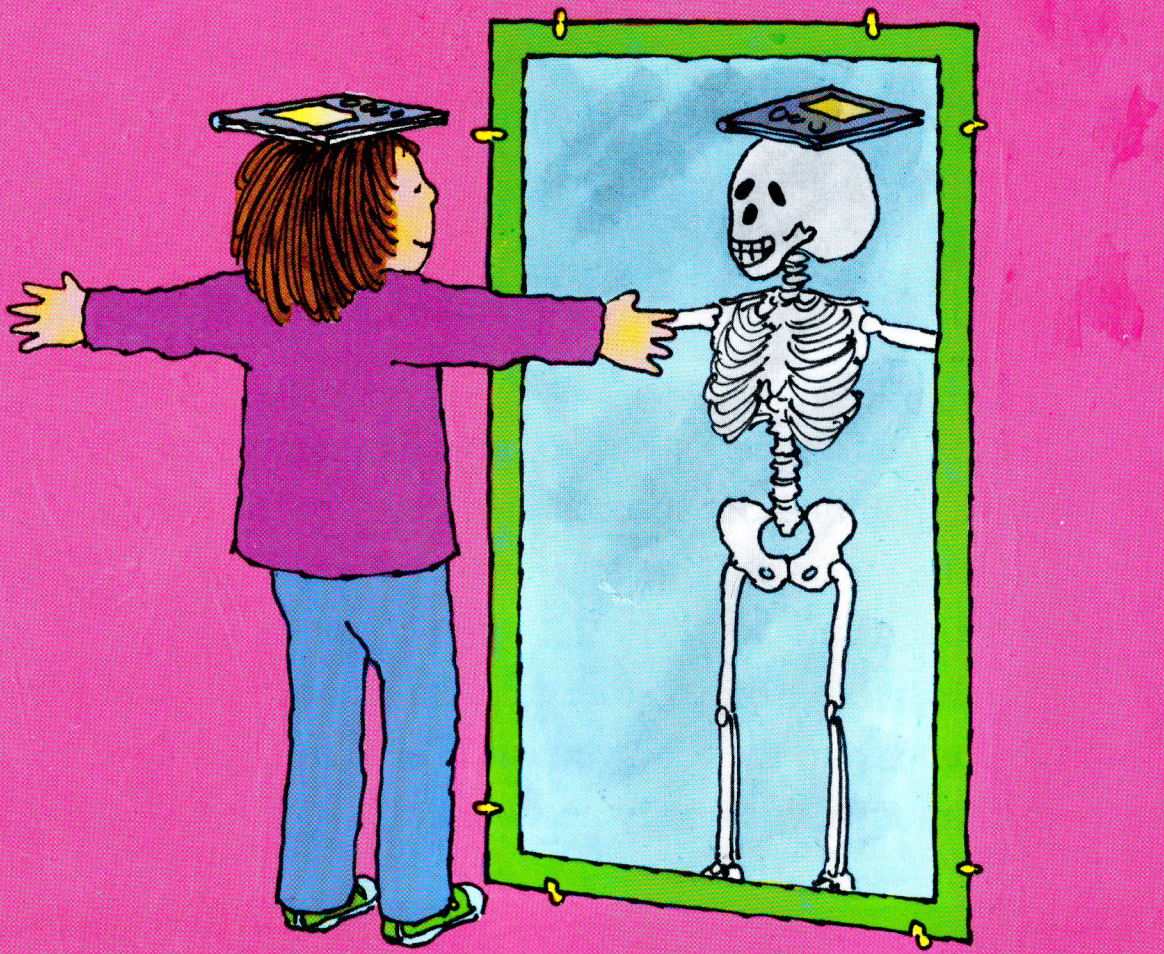
It was a bone from a big steer's leg. Your leg bones look almost the same inside.

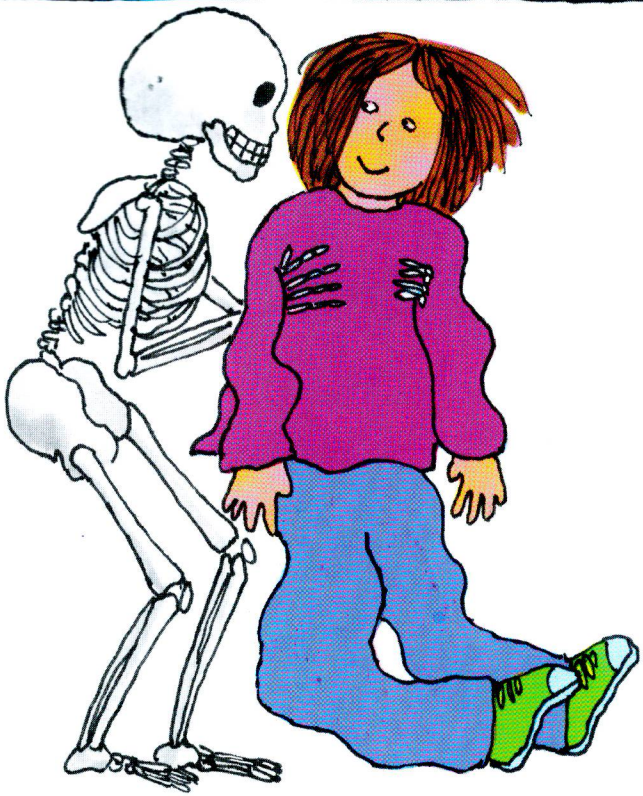


Inside your bones is a core that looks something like a sponge. All the little spaces in the core are filled with soft bone marrow. Bone marrow helps make the red cells of your blood.

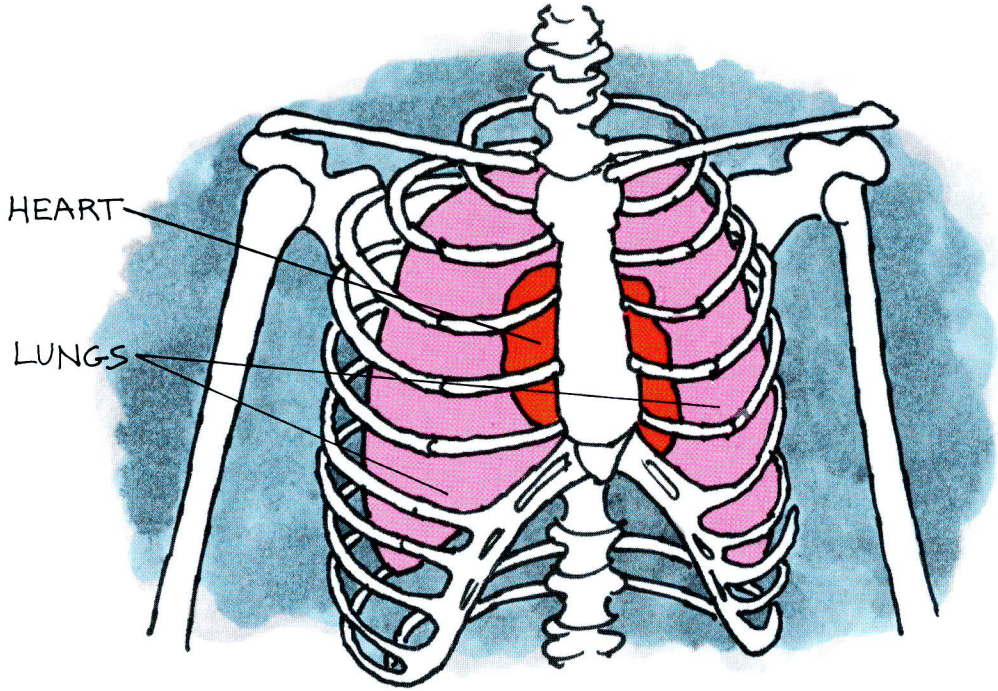
The insides of bones store calcium and other minerals that come from the food you eat. These minerals are saved up until your body needs them.

All your 206 bones fit together to make your skeleton. Your skeleton helps you stand up straight.

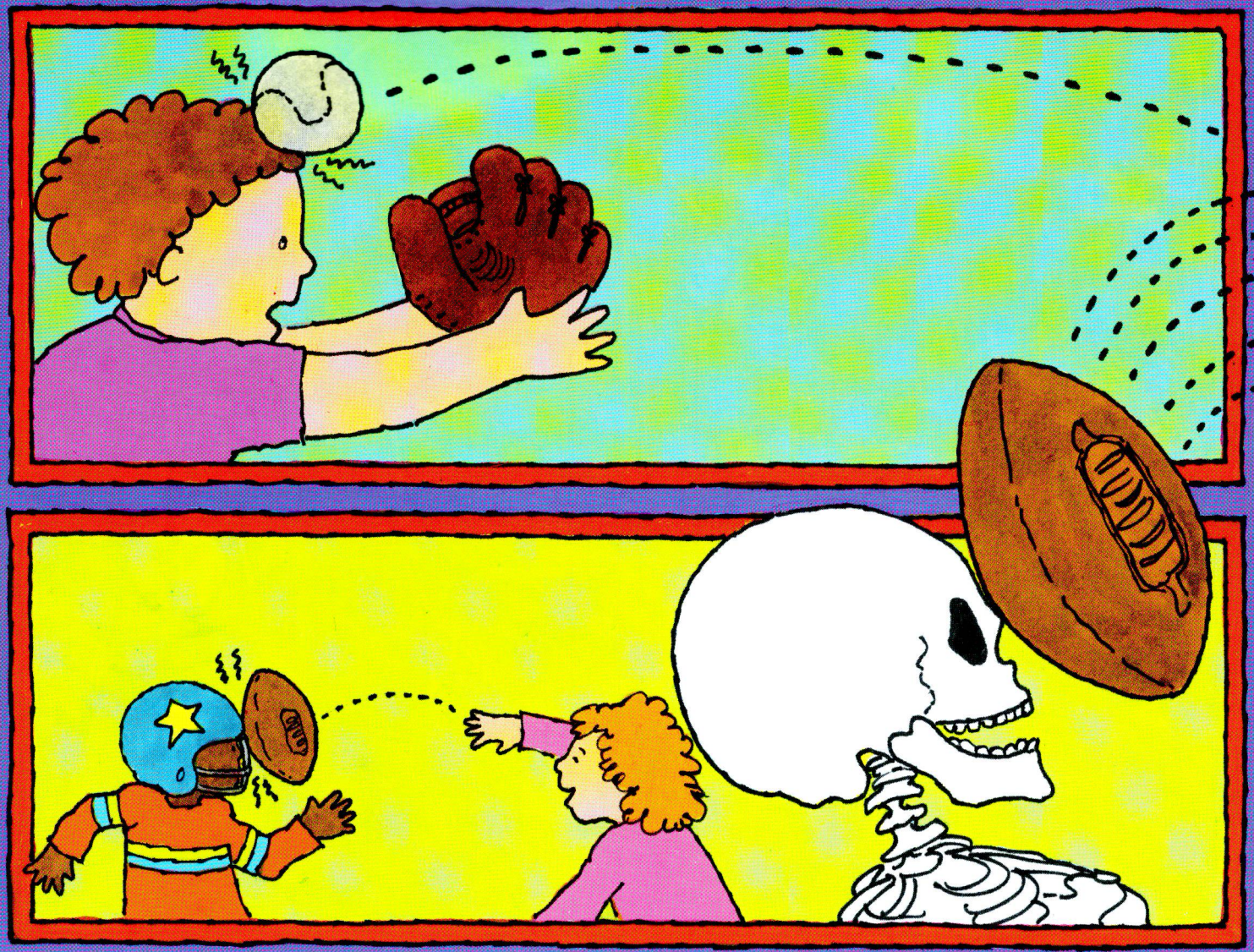


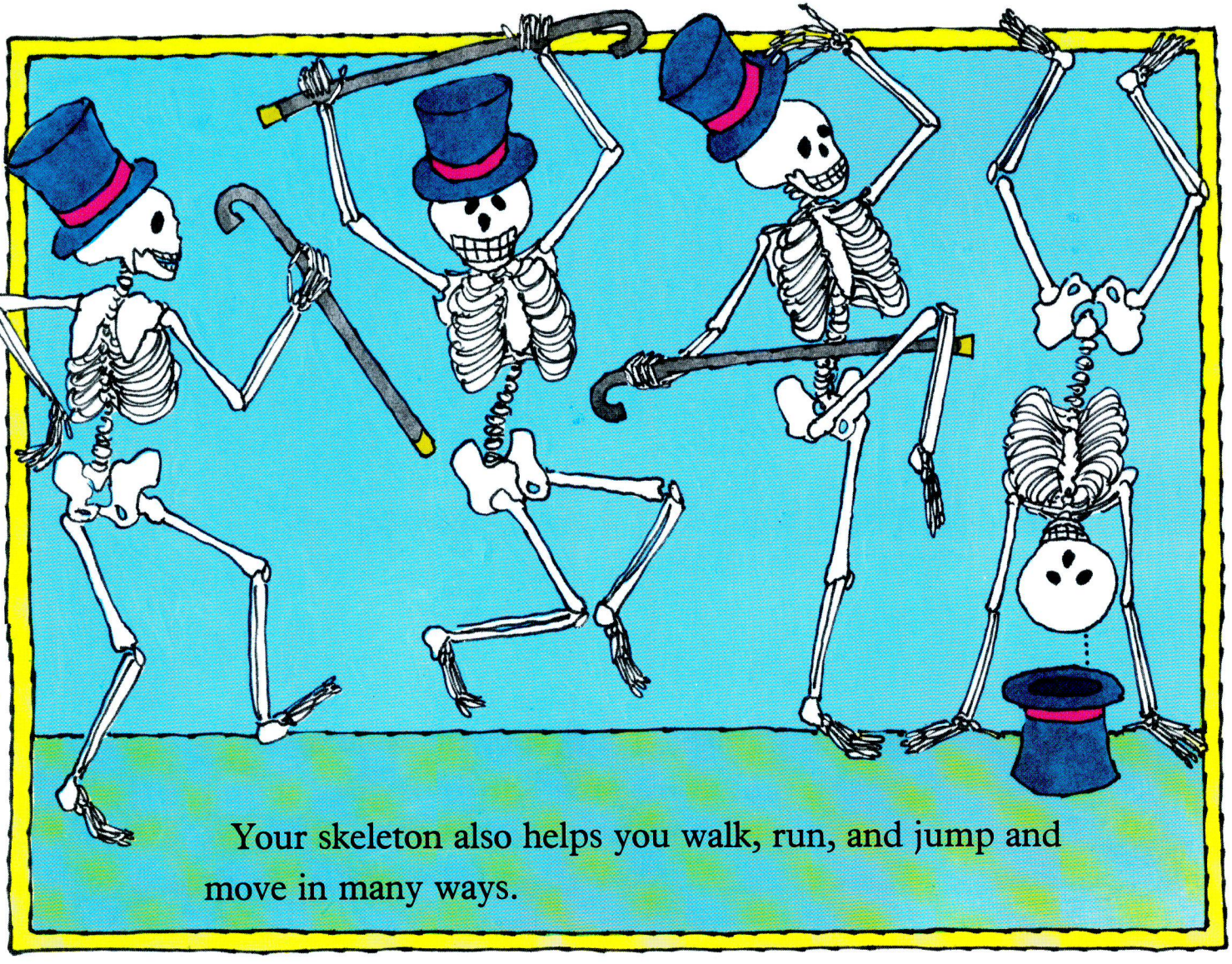


Without a skeleton, you would be like a ball of soft clay that can be molded into anything. You would be as floppy as a big beanbag.



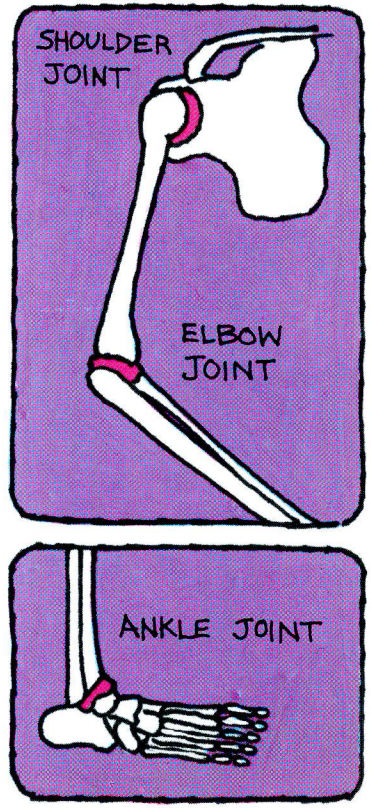
Some bones in your skeleton protect important parts inside you. Your rib bones cover your heart and lungs. Your skull protects your brain from hard knocks. The bones around your eyes protect them the way a football helmet does.

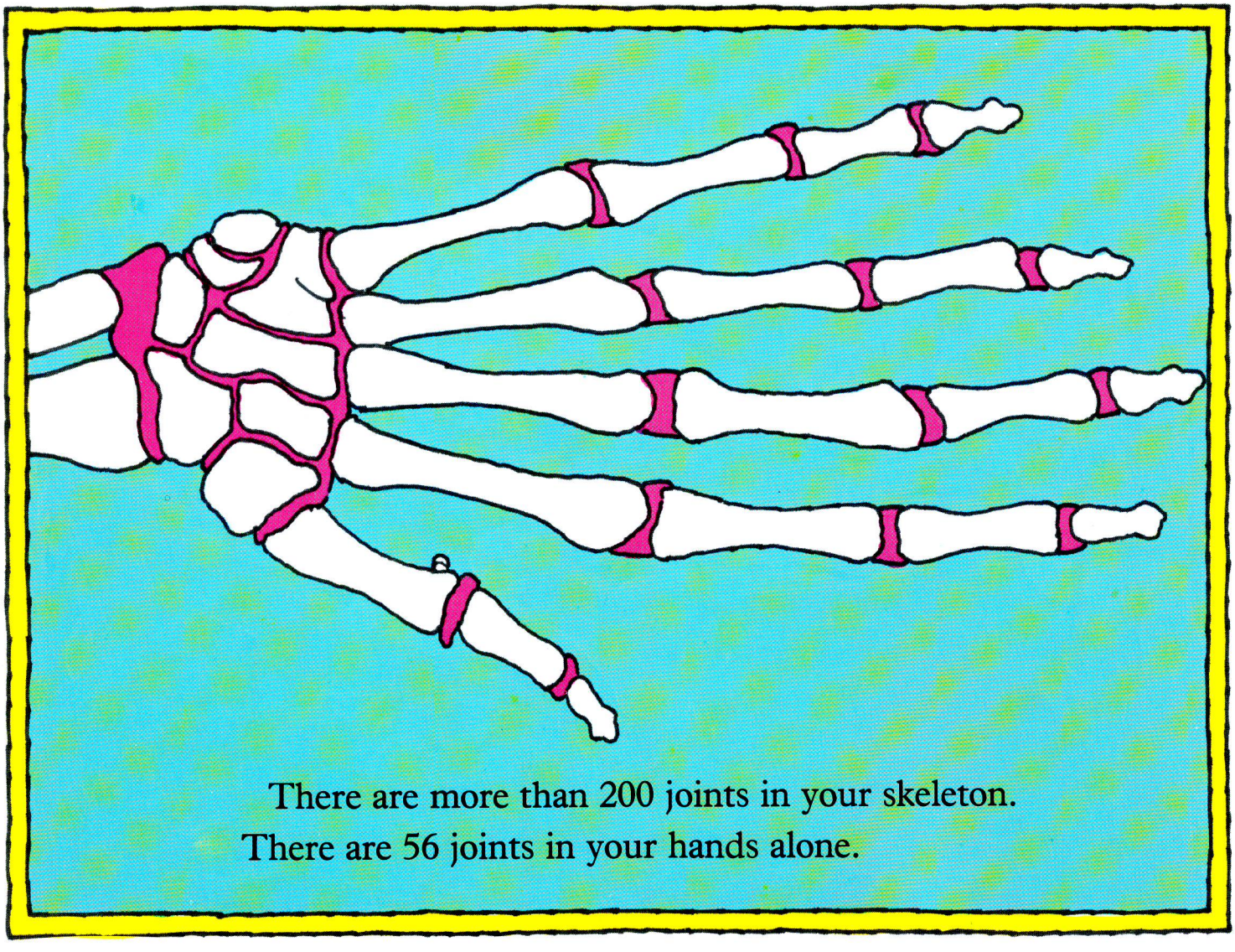




Your skeleton also helps you walk, run, and jump and move in many ways.

The bones of your skeleton fit together at joints. Without joints, your skeleton could not move or bend. Shoulders, elbows, and ankles are joints.

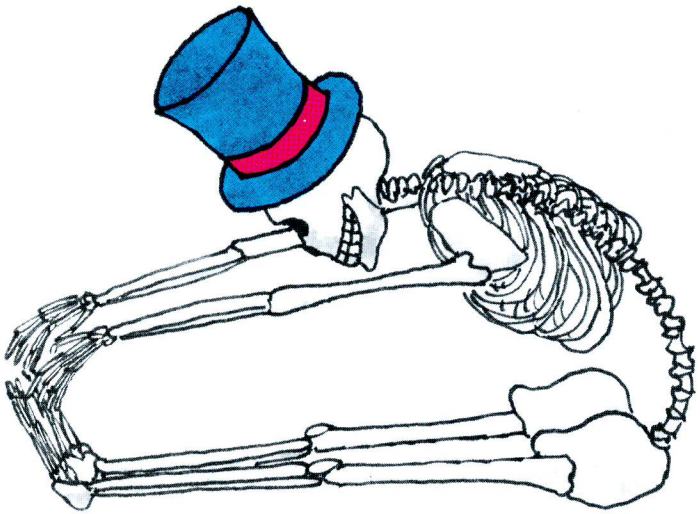


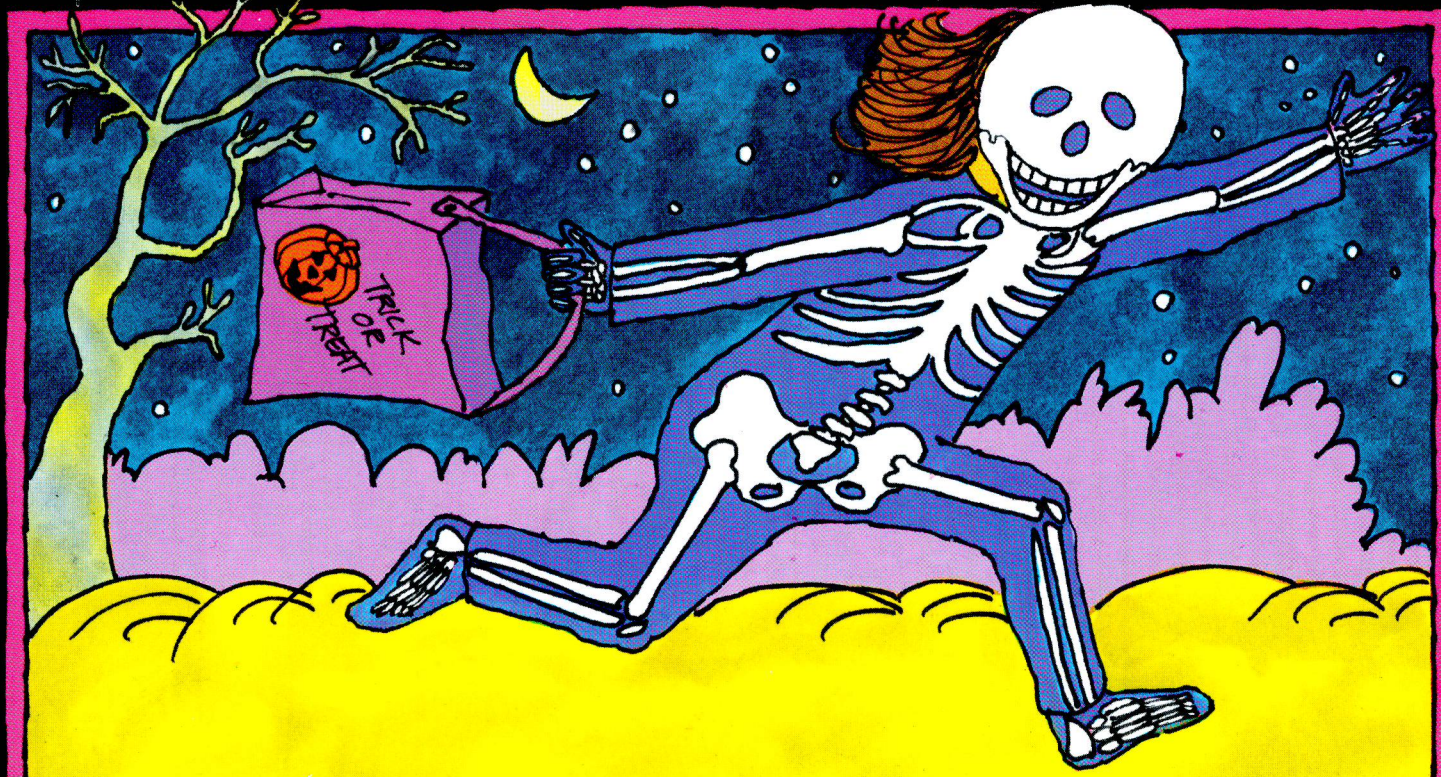


There are more than 200 joints in your skeleton.
There are 56 joints in your hands alone.

The bones are held at the joints by ligaments. Ligaments are like strong pieces of string. They hold the bones together at the joints. But they also slide back and forth and sideways to let the bones move.

Your backbone is made up of 34 bones that fit together at 33 separate joints. That is why you can twist and turn almost any way. You can do a somersault. Or you can make yourself into a bridge, back up or belly up. If a backbone were only one bone, you could not do these things.





You could not put on a scary skeleton suit. You would not be able to run or jump or ring doorbells on Halloween if you did not have a skeleton inside you.

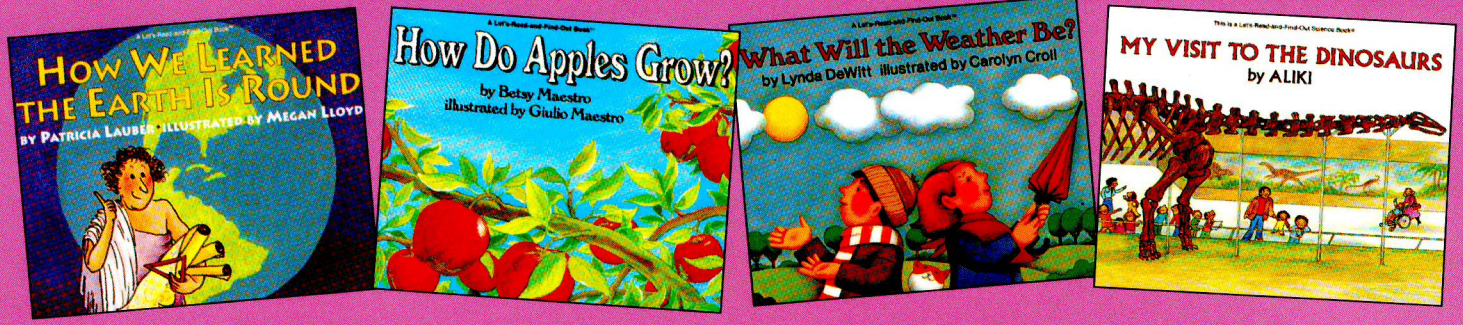
Philip Balestrino is on the faculty of the Fashion Institute of Technology in New York City. He is the author of several books for young readers.

True Kelley is the illustrator of numerous children's books, including several other titles in the Let's-Read-and-Find-Out Science series, among them LOOK AT YOUR EYES and HOW MANY TEETH?, both by Paul Showers.

What does your skeleton do?

Your skeleton helps you leap, somersault, and touch your toes—without it, you would be as floppy as a beanbag! There are over 200 bones living and growing inside you that make up your skeleton. There are also ligaments and joints that hold your bones together, and cartilage in your bendable parts like your ears and your nose. Learn all about what a skeleton can do—because this isn't some make-believe Halloween skeleton, this is the real skeleton inside you.

Here are some other Let's-Read-and-Find-Out Science books you might enjoy:



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